Grade 4—PBA

This blueprint extends Table D.5 in the ITN,[1] providing more specificity as well as a further iteration of draft design elements covered in the ITN.

Part 1a. Part 1a consists of eight (8) tasks, each worth 1 point (these are tasks of Type I.1[2]).

Table 4-PBA(1a) lists evidence statements for Part 1a. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 4-PBA(1a). Blueprint for Grade 4 PBA Part 1a

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/4	1	4.OA.1-1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.	i) Tasks have "thin context"[7] or no context.	MP.2 MP.4	Use the four operations with whole numbers to solve problems.
	1/4	1	4.OA.1-2	Represent verbal statements of multiplicative comparisons as multiplication equations.	i) Tasks have "thin context" or no context.	MP.2 MP.4	Use the four operations with whole numbers to solve problems.
	1/2	1	4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	i) See the *Progression* for Operations and Algebraic Thinking,[8] especially p. 29 and Table 3 on p. 23. ii)Tasks sample equally the situations in the third row of Table 2 on page 89 of CCSSM.	MP.1 MP.4, MP.5	Use the four operations with whole numbers to solve problems.

[1] See Table D.3, "Grade 3, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[2] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[3] This is the number of task(s) that will appear on a form to generate evidence for the indicated evidence statement (or the indicated set of evidence statements).
[4] Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form. Note that the sum of the probabilities over the indicated set of evidence statements equals the number of tasks to be apportioned among them. Note also that in any case where $T > 1$ tasks are to be apportioned among $E > T$ evidence statements, all E-choose-T unordered T-tuples of distinct evidence statements are considered equally likely. For example, if 3 tasks are to be apportioned among 12 evidence statements, then all 220 possible unordered triples of distinct evidence statements are considered equally likely; it follows that each individual evidence statement has probability 3/12 = 1/4.
[5] **1** = Sub-Claim A but not Sub-Claims C or E. **2** = Sub-Claims A and C. **3** = Sub-Claims A and E. **4** = Sub-Claim D. **5** = Sub-Claim B. (If more than one code is listed, points are divided evenly among listed codes, with any remainder coded to **1**.) See the Grade Summary for totals by claim code.
[6] Practices listed in the top half of the cell indicate that tasks are *ipso facto* Practice-forward for that practice; practices listed in the bottom half are potentially Practice-forward for that practice, depending on the task. See also Appendix F (Revised), "Illustrations of Innovative Task Characteristics," particularly section F(A)(2), "Practice-Forward Tasks," and especially Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," particularly section IV, "Operationalizing Assessment of the Mathematical Practices," and section V, "Practice-forward tasks," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf
[7] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For an example of thin context, see the "Animal Populations" problem on the Illustrative Mathematics website. Thin context is not the same thing as phony context, which one often sees on standardized tests. An example of phony context: "There are 2358 birds in the park. What is the value of the 5 in 2358?" This context is phony because birds and parks play no part in the mental processes of the person answering the question. Thin context is thinner than the context provided in a word problem.
[8] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/4	1	4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.	-	MP.7	Generalize place value understanding for multi-digit whole numbers.
	1/4	1	4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	i) Tasks assess conceptual understanding, e.g. by including a mixture (both within and between items) of expanded form, number names, and base ten numerals.[9]	MP.7	Generalize place value understanding for multi-digit whole numbers.
	1/4	1	4.NBT.5-1	Multiply a whole number of up to four digits by a one-digit whole number using strategies based on place value and the properties of operations.	i) Tasks do not have a context. ii) For the illustrate/explain aspect of 4.NBT.5, see Grade 4 PBA Part 2.	MP.7	Use place value understanding and properties of operations to perform multi-digit arithmetic.
	1/4	1	4.NBT.6-1	Find whole-number quotients and remainders with up to three-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.	i) Tasks do not have a context. ii) For the illustrate/explain aspect of 4.NBT.6, see Grade 4 PBA Part 2.	MP.7, MP.8	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	1/2	1	4.NF.1-2	Use the principle a/b = (nxa)/(nxb) to recognize and generate equivalent fractions.	i) The explanation aspect of 4.NF.1 is not assessed here; for that aspect of the standard, see Grade 4 PBA Part 2. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). iii) Tasks may include fractions that equal whole numbers.	MP.7	Extend understanding of fraction equivalent and ordering
	1/2	1	4.NF.2-1	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or by comparing to a benchmark fraction such as 1/2. Record the results of comparisons with symbols <, =, or <.	i) For the justification aspect of 4.NF.2, see PBA Part 2. ii) For the aspect of recognizing that fraction comparisons are valid only when the two fractions refer to the same whole, see Grade 4 PBA Part 2. iii) Tasks require the student to choose the comparison strategy autonomously depending on the given fractions. iv) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). v) Tasks may include fractions that equal whole numbers	MP.6, MP.7	Extend understanding of fraction equivalent and ordering.
1	1/4	1	4.NF.3a	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.2, MP.7 MP.8	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/4	1	4.NF.3b-1	Understand a fraction a/b with a > 1 as a sum of fractions 1/b b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. *Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*	i) Only the answer is required (methods, representation, etc. are not assessed here); for the justification portion of 4.NF.3b, see Grade 4 PBA Part 2. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). iii) Tasks may include fractions that equal whole numbers	MP.7, MP.8	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/6	1	4.NF.4b-1	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. b. Understand a multiple of a/b as a multiple of 1/b. *For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5).*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks involve expressing a/b as a multiple of 1/b. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.7 MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/6	1	4.NF.4b-2	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number,b. Use the understanding that a multiple of a/b is a multiple of 1/b to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 x (2/5)*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.7	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers

[9] Some problems oriented toward conceptual understanding rather than procedural skill in place value are at http://www.achievethecore.org/downloads/Thinking%20About%20Place%20Value%20in%20Grade%20Two.pdf (appropriate to the grade 2 standards)

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				as 6/5. (In general, n x (a/b) = (nxa)/b.)	iii) Tasks involve expressing a multiple of a/b as a fraction. iv) Results may equal fractions greater than 1 (including those equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.5	understandings of operations on whole numbers.
	1/6	1	4.NF.4c	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	i i) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. ii) Situations are limited to those in which the product is unknown (situations do not include unknown factors). iii) Situations involve a whole number of fractional quantities—not a fraction of a whole-number quantity. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	**MP.1**.,MP.4, MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	-	3	3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	i) Tasks have no context.	-	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	1/2	1	3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	i) Fractions are not limited to values between 0 and 1. ii) Fractions equal whole numbers in 20% of these tasks. iii) Tasks have "thin" context or no context. . iv) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. *(See footnote in CCSSM, p. 24)*	**MP.5**.[10]	Develop understanding of fractions as numbers.
	1/2	1	3.NF.3c	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. c) Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. *(See footnote in CCSSM, p. 24)* *ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA.(2).*	MP.7 MP.5	Develop understanding of fractions as numbers.
1	-	1	3.NF.3d	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d) Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. *(See footnote in CCSSM, p. 24)* ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) *The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA.(2).*	MP.7 MP.5	Develop understanding of fractions as numbers.
1	-	1	3.MD.2-2	Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.7		MP.1. MP.4. and MP.2 MP.5	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Part 1b. Part 1b consists of two (2) tasks worth 2 points each, totaling 4 points in all.

Table 4-PBA(1b) (see below) lists evidence statements for Part 1b. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Evidence Statements within a given content domain are equally likely to be assessed.

Table 4-PBA(1b). Evidence Statements for Grade 4 PBA Part 1b

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	4.OA.3-2	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, in which remainders must be interpreted.	i) Assessing reasonableness of answer is not assessed here. ii) For the aspects of 4.OA.3 described in notes (i) and (ii), see Grade 4 PBA Part 2 iii) Tasks involve interpreting remainders. iv) See p. 30 of the *Progression* for Operations and Algebraic Thinking.[12]	MP.1, MP.2, MP.7, MP.4	Use the four operations with whole numbers to solve problems.
1	4.NBT.Int.1	Perform computations best performed by applying conceptual understanding of place value, rather than by applying multi-digit algorithms.	i) Tasks do not have a context i) See ITN Appendix F, section A, "Illustrations of Innovative Task Characteristics," subsection 4, "Integrative tasks with machine scoring of responses entered by computer interface."	MP.1, MP.7	-
1	4.NF.3d	Understand a fraction a/b with a > 1 as a sum of fractions 1/b d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). ii) Addition and subtraction situations are limited to the dark- or medium-shaded types in Table 2, p. 9 of the *Progression* for Operations and Algebraic Thinking; these situations are sampled equally.[13] iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1 and MP.4. MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	4.NF.A.Int.1	Apply conceptual understanding of fraction equivalence and ordering to solve simple word problems requiring fraction comparison.	Tasks have "thin context." i) Tasks do not require adding, subtracting, multiplying, or dividing fractions. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.1. MP.4 MP.5	Extend understanding of fraction equivalent and ordering.

[13] While Table 2 in the *Progression* for Operations and Algebraic Thinking is phrased in terms appropriate for whole numbers, changes of phrasing are generally necessary in fraction contexts (e.g., "Mike's recipe has 1/8 cup sugar. Joe's recipe has 5/8 cup sugar. How much more sugar does Joe's recipe have?") The point of referencing Table 2 is to reference the quantitative relationships it describes, not the exact wording of its examples.

[13] While Table 2 in the *Progression* for Operations and Algebraic Thinking is phrased in terms appropriate for whole numbers, changes of phrasing are generally necessary in fraction contexts (e.g., "Mike's recipe has 1/8 cup sugar. Joe's recipe has 5/8 cup sugar. How much more sugar does Joe's recipe have?") The point of referencing Table 2 is to reference the quantitative relationships it describes, not the exact wording of its examples.

Part 2.

Sub Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning. The student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

The formulation *"Use drawings, words, and/or equations"* can be useful in tasks generating evidence for Claim C (expressing mathematical reasoning).

Assessing students' expressions of mathematical reasoning typically requires some hand scoring of tasks. However, PARCC is interested in possible technological innovations that can allow tasks assessing this aspect of the standards to be machine scored or partially machine scored. PARCC is also interested in transformative technological innovations that can enrich the range of activities beyond what is possible with a paper test (e.g., assembling shapes to prove or disprove a conjecture).

Part 2 consists of four (4) tasks: two (2) three-point tasks and two (2) four-point tasks, totaling 14 points in all.

Table 4-PBA(2) (see below) lists evidence statements for Part 2. Tasks for this part satisfy the following constraints:

- Each task on Part 2 generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content and process domain is specified by the Form Construction Tables.
- Evidence Statements within a given content or process domain are equally likely to be assessed.
- For Evidence Statements with more than one standard listed within the Content Scope, contractors may select one or more while keeping a balanced pool.

Table 4-PBA(2).[15,16] Evidence Statements for Grade 4 PBA Part 2

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	4.C.1-1	Base explanations/reasoning on the properties of operations.[17] Content Scope: Knowledge and skills articulated in 4.NBT.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Tasks do not have a context.	MP.3, MP.6 and MP.7.	Use place value understanding and properties of operations to perform multi-digit arithmetic.
2	4.C.1-2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 4.NBT.6	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Tasks do not have a context.	MP.3, MP.6, MP.7, and MP.8.	Use place value understanding and properties of operations to perform multi-digit arithmetic.
2	4.C.2	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.[18] Content Scope: Knowledge and skills articulated in 4.NBT.6	i) Tasks do not have a context.	MP.3, MP.6 and MP.7.	Use place value understanding and properties of operations to perform multi-digit arithmetic.
2	4.C.3	Reason about the place value system itself. Content Scope: Knowledge and skills articulated in 4.NBT.A	i) Tasks have "thin context" or no context.	MP.3, MP.6 and MP.7	Generalize place value understanding for multi-digit whole numbers
2	4.C.4-1	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.3, MP.5., and MP.6	Extend understanding of fraction equivalent and

[15] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.
[16] See ITN Appendix F (revised), Table F.f.6
[17] Properties of operations are a recurring theme throughout the standards to foster coherence and build a bridge from arithmetic to algebra. "These Standards endeavor to follow [a coherent] design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas." (CCSSM, p. 4)
[18] The relationships between operations are a recurring theme throughout the arithmetic progressions in the standards (see 1.OA.4, 1.NBT.4, 1.NBT.6, 2.NBT.5, 2.NBT.7, 3.NBT.2, 3.OA.6, 4.NBT.5, 4.NBT.6, 4.NF.3c, 5.NBT.6, 5.NBT.7, 5.NF.3 (italics), 5.NF.7a (italics), 5.NF.7b (italics), 6.NS.1 (italics), 7.NS.1, 7.NS.2. This list does not include the way that the relationships between operations factor into work with word problems in the OA progression.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.A			ordering
2	4.C.4-2	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.3a, 4.NF.3b	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.3, MP.5., and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.4-3	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.4a	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.3, MP.5 and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.4-4	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.4b	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.2, MP.3, MP.6, and MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.4-5	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method. Content Scope: Knowledge and skills articulated in 4.NF.C	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.2, MP.3, MP.5 and, MP.6	Understand decimal notation for fractions, and compare decimal fractions.
2	4.C.5-1	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning.[19] (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.OA.3	i) Reasoning in these tasks centers on interpretation of remainders.	MP.2[20], MP.3 and, MP.6 MP.1, MP.7, MP.3 and, MP.6	Use the four operations with whole numbers to solve problems.
2	4.C.5-2	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning.[21] (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.1	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.3, MP.7. and, MP.6	Extend understanding of fraction equivalent and ordering
2	4.C.5-3	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.2	Tasks have "thin context" or no context. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.3, MP.7. and, MP.6	Extend understanding of fraction equivalent and ordering
2	4.C.5-4	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.B	Grade 4 expectations in NF are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. *(See footnote in CCSSM, p. 30)* i) For fractions equal to a whole number, values are limited to 0, 1, 2, 3, 4, and 5.	MP.3. and, MP.6 MP.3, MP.5 and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

[19] This is a modification of the draft evidence statement in the ITN. The highlighted words used to say, "explain what it is." This was modified because (i) explaining the flaw in a piece of reasoning is much more difficult than simply presenting a correction of the flawed reasoning; one must not only find the right reasoning, but also articulate just why the flawed reasoning is flawed. That is very difficult even for adults. (ii) Because it is difficult for adults to do, it is also difficult for adults to assess. Rubrics for evaluating explanations of flawed reasoning would be difficult to construct, and the typical grader wouldn't reliably award credit.

[20] Interpreting results in the light of a given situation or context is an example of reasoning abstractly and quantitatively.

[21] This is a modification of the draft evidence statement in the ITN. The highlighted words used to say, "explain what it is." This was modified because (i) explaining the flaw in a piece of reasoning is much more difficult than simply presenting a correction of the flawed reasoning; one must not only find the right reasoning, but also articulate just why the flawed reasoning is flawed. That is very difficult even for adults. (ii) Because it is difficult for adults to do, it is also difficult for adults to assess. Rubrics for evaluating explanations of flawed reasoning would be difficult to construct, and the typical grader wouldn't reliably award credit.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	4.C.5-5	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 4.NF.C	Tasks have "thin context"[22] or no context. i) Grade 4 expectations in NF are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. *(See footnote in CCSSM, p. 30)* ii) For fractions equal to a whole number, values are limited to 0, 1, 2, 3, 4, and 5.	MP.3, MP.5 and MP.6	Understand decimal notation for fractions, and compare decimal fractions.
2	4.C.6-1	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.OA.3	Tasks involve interpreting remainders.	MP.3, MP.5 and MP.6 MP.1,MP.2, MP.7, MP.3, and MP.6	
2	4.C.6-2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.NF.3c	Tasks have "thin context"[23] or no context. i) Denominators are limited to grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower. (See footnote in CCSSM, p. 24)	MP.2, MP.3, MP.6, and MP.7	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.6-3	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 4.NF.3d, 4.NF.4c	Denominators are limited to grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower. (See footnote in CCSSM, p. 24)	MP.3 and MP.6 MP.2, MP.3, MP.5 and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.7-1	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.1		MP.3, MP.5 and MP.6	Extend understanding of fraction equivalent and ordering
2	4.C.7-2	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.2		MP.3, MP.5 and MP.6	Extend understanding of fraction equivalent and ordering
2	4.C.7-3	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.3a		MP.3, MP.5 and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	4.C.7-4	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content Scope: Knowledge and skills articulated in 4.NF.4a, 4.NF.4b		MP.3, MP.5 and MP.6	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

[22] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For an example of thin context, see the "Animal Populations" problem on the Illustrative Mathematics website. Thin context is not the same thing as phony context, which one often sees on standardized tests. An example of phony context: "There are 2358 birds in the park. What is the value of the 5 in 2358?" This context is phony because birds and parks play no part in the mental processes of the person answering the question. Thin context is thinner than the context provided in a word problem.

[23] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For an example of thin context, see the "Animal Populations" problem on the Illustrative Mathematics website. Thin context is not the same thing as phony context, which one often sees on standardized tests. An example of phony context: "There are 2358 birds in the park. What is the value of the 5 in 2358?" This context is phony because birds and parks play no part in the mental processes of the person answering the question. Thin context is thinner than the context provided in a word problem.

Part 3a.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3a consists of two (2) tasks, each worth three points, totaling 6 points in all.

- There is one evidence statement for Part 3a, given in Table 4-PBA(3a) below.
- Both tasks should assess the following evidence statement with sufficient variety.
- When utilizing an Evidence Statement from PBA(1a) or PBA(1b) please note the "clarifications, limits and emphases" that accompanies the Evidence Statement.

Table 4-PBA(3a).[25,26] Evidence Statement for Grade 4 PBA Part 3a

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	4.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in Tables 4-PBA(1a) and 4-PBA(1b).	i) Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to Grade 4.	MP.4	-

These problems may involve related practices, particularly: making sense of problems and persevering to solve them (MP.1); reasoning abstractly and quantitatively (MP.2); using appropriate tools strategically (MP.5); and looking for and making use of structure (MP.7).

[25] This table need not be considered complete or final. For context see Appendix D, "Sub-Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application," particularly "Evidence Statements for Sub-Claim D," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim D will include possible candidates for evidence statements for sub-claim D.
[26] See Table F.f.4.

Part 3b.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3b consists of one (1) task worth six points.

There is one evidence statement for Part 3b, given in Table 4-PBA(3b) below.

Table 4-PBA(3b).[28,29] Evidence Statement for Grade 4 PBA Part 3b

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	4.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 4, requiring application of knowledge and skills articulated in 3.OA.A, 3.OA.8, 3.NBT, and/or 3.MD.	i) Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to Grade 4.	MP.4	-

These problems may involve related practices, particularly: making sense of problems and persevering to solve them (MP.1); reasoning abstractly and quantitatively (MP.2); using appropriate tools strategically (MP.5); and looking for and making use of structure (MP.7).

[28] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.

[29] See Table F.f.4. in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf

Grade 4—EOY

This blueprint is the evolution of Table D.6 in the ITN,[30] providing more specificity as well as a further iteration of draft design elements covered in the ITN.

Part 1. Part 1 consists of thirty (30) tasks, each worth 1 point (these are tasks of Type I.1[31]).

Table 4-EOY(1) lists evidence statements for Part 1a. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 4-EOY(1). Blueprint for Grade 4 EOY Part 1

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/2	1	4.OA.1-1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.	i) Tasks have "thin context" or no context.	MP.2 MP.4	Use the four operations with whole numbers to solve problems.
	1/2	1	4.OA.1-2	Represent verbal statements of multiplicative comparisons as multiplication equations.	i) Tasks have "thin context" or no context.	MP.2 MP.4	Use the four operations with whole numbers to solve problems.
1	-	1	4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	i) See the *Progression* for Operations and Algebraic Thinking,[32] especially p. 29 and Table 3 on p. 23. ii) Tasks sample equally the situations in the third row of Table 2 on page 89 of CCSSM.	MP.1, MP.4 MP.5	Use the four operations with whole numbers to solve problems.
1	-	1	4.OA.3-1	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations.	i) Assessing reasonableness of answer is not assessed here. ii) For the aspects of 4.OA.3 described in notes (i) and (ii), see Grade 4 PBA Part 2 iii) Tasks do not involve interpreting remainders.	MP.1. MP.2, MP.7	Use the four operations with whole numbers to solve problems.
2	-	1	4.OA.3-2	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, in which remainders must be interpreted.	i) Assessing reasonableness of answer is not assessed here. ii) For the aspects of 4.OA.3 described in notes (i) and (ii), see Grade 4 PBA Part 2 iii) Tasks involve interpreting remainders. iv) See p. 30 of the *Progression* for Operations and Algebraic Thinking.[33]	MP.1, MP.2 MP.7	Use the four operations with whole numbers to solve problems.
1	3/8	1	4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700	-	MP.7	Generalize place value understanding for multi-digit

[30] See Table D.3, "Grade 3, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[31] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[32] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[33] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				÷ 70 = 10 by applying concepts of place value and division.			whole numbers.
	3/8	1	4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	i) Tasks assess conceptual understanding, e.g. by including a mixture (both within and between items) of expanded form, number names, and base ten numerals.[34]	MP.7	Generalize place value understanding for multi-digit whole numbers.
	1/4	1	4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.	i) Grade 4 expectations are limited to whole numbers less than or equal to 1,000,000 (*CCSSM footnote, page 29)*	- MP.7	Generalize place value understanding for multi-digit whole numbers.
1	-	3	4.NBT.4.1	Fluently add multi-digit whole numbers using the standard algorithm.	The given addends are such as to require an efficient/standard algorithm (e.g., 7263 + 4875). Addends in the task do not suggest any obvious *ad hoc* or mental strategy (as would be present for example in a case such as16,999 + 3,501). i) Tasks do not have a context. ii) iii) Grade 4 expectations in CCSSM are limited to whole numbers less than or equal to 1,000,000; for purposes of assessment, both of the given numbers should have 4 or 5 digits.	-	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	-	3	4.NBT.4.2	Fluently subtract multi-digit whole numbers using the standard algorithm.	The given subtrahend and minuend are such as to require an efficient/standard algorithm (e.g., 7263 – 4875 or 7406 – 4637). The subtrahend and minuend do not suggest any obvious *ad hoc* or mental strategy (as would be present for example in a case such as 7300 – 6301). i) Tasks do not have a context. iiiGrade 4 expectations in CCSSM are limited to whole numbers less than or equal to 1,000,000; for purposes of assessment, both of the given numbers should have 4 or 5 digits.	-	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	1/2	1	4.NBT.5-1	Multiply a whole number of three or four digits by a one-digit whole number using strategies based on place value and the properties of operations.	Tasks do not have a context. i) For the illustrate/explain aspect of 4.NBT.5, see Grade 4 PBA Part 2.	MP.7	Use place value understanding and properties of operations to perform multi-digit arithmetic.
	1/2	1	4.NBT.5-2	Multiply two two-digit numbers, using strategies based on place value and the properties of operations.	Tasks do not have a context. i) For the illustrate/explain aspect of 4.NBT.6, see Grade 4 PBA Part 2.	MP.7	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	1/2	1	4.NBT.6-1	Find whole-number quotients and remainders with three-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.	Tasks do not have a context. i) For the illustrate/explain aspect of 4.NBT.6, see Grade 4 PBA Part 2.	MP.7, MP.8	Use place value understanding and properties of operations to perform multi-digit arithmetic.
	1/2	1	4.NBT.6-2	Find whole-number quotients and remainders with four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.	Tasks do not have a context. i) For the illustrate/explain aspect of 4.NBT.6, see Grade 4 PBA Part 2.	MP.7, MP.8	Use place value understanding and properties of operations to perform multi-digit arithmetic.
2	-	1	4.NBT.Int.1	Perform computations best performed by applying conceptual understanding of place value, rather than by applying multi-digit algorithms.	i) Tasks do not have a context i) See ITN Appendix F, section A, "Illustrations of Innovative Task Characteristics," subsection 4, "Integrative tasks with machine scoring of responses entered by computer interface."	MP.1, MP.7	-

[34] Some problems oriented toward conceptual understanding rather than procedural skill in place value are at http://www.achievethecore.org/downloads/Thinking%20About%20Place%20Value%20in%20Grade%20Two.pdf (appropriate to the grade 2 standards)

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	4.NF.1-2	Use the principle a/b = (nxa)/(nxb) to recognize and generate equivalent fractions.	The explanation aspect of 4.NF.1 is not assessed here; for that aspect of the standard, see Grade 4 PBA Part 2. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). ii) Tasks may include fractions that equal whole numbers.	MP.7	Extend understanding of fraction equivalent and ordering.
2	-	1	4.NF.2-1	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or by comparing to a benchmark fraction such as 1/2. Record the results of comparisons with symbols <, =, or <.	Only the answer is required (methods, representation, justification, etc. are not assessed here).. i) For the justification aspect of 4.NF.2, see Grade 4 PBA Part 2. ii) For the aspect of recognizing that fraction comparisons are valid only when the two fractions refer to the same whole, see PBA Part 2. iii) Tasks require the student to choose the comparison strategy autonomously. iv) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). v) Tasks may include fractions that equal whole numbers	MP.6, MP.7	Extend understanding of fraction equivalent and ordering.
	1/3	1	4.NF.3a	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.2, MP.7 MP.8	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	1/3	1	4.NF.3b-1	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. *Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*	Only the answer is required (methods, representation, etc. are not assessed here); for the justification portion of 4.NF.3b see Grade 4 PBA Part 2. i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). ii) Tasks may include fractions that equal whole numbers	MP.7, MP.8	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/3	1	4.NF.3c	Understand a fraction a/b with a > 1 as a sum of fractions 1/b. c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	Tasks do not have a context. i) Denominators are limited to grade 3 possibilities (2, 3, 4, 6, 8) so as to keep computational difficulty lower. (See footnote in CCSSM, p. 24)	MP.7	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/3	1	4.NF.4a	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 x (1/4), recording the conclusion by the equation 5/4 = 5 x (1/4).	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.5, MP.7	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	1/3	1	4.NF.4b-1	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. b. Understand a multiple of a/b as a multiple of 1/b. *For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5).*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks involve expressing a multiple of a/b as a multiple of 1/b. iv) Results may equal fractions greater than 1 (including those equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.7 MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
	1/3	1	4.NF.4b-2	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. b. Use the understanding that a multiple of a/b is a multiple of 1/b to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 x (2/5) as 6/5. (In general, n x (a/b) = (nxa)/b.)*	i) Tasks do not have a context. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) Tasks involve expressing a multiple of a/b as a fraction. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.7 MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	-	1	4.NF.4c	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*	i)Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. ii) Situations are limited to those in which the product is unknown (situations do not include those with an unknown factor). iii) Situations involve a whole number of fractional quantities, not a fraction of a whole-number quantity. iv) Results may equal fractions greater than 1 (including fractions equal to whole numbers). v) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.1, MP.4. MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
2	2/3	1	4.NF.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*	i) Tasks do not have a context.	MP.7	Understand decimal notation for fractions, and compare decimal fractions.

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
	2/3	1	4.NF.6	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*	-	MP.7	Understand decimal notation for fractions, and compare decimal fractions.
	2/3	1	4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.	Tasks have "thin context" or no context. i) Justifying conclusions is not assessed here; for this aspect of the standard, see PBA Part 2. ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.7 MP.5	Understand decimal notation for fractions, and compare decimal fractions.
1	1/2	1	4.Int.1	Solve one-step word problems involving adding or subtracting two four-digit numbers.	The given numbers are such as to require an efficient/standard algorithm (e.g., 7263 + 4875, 7263 – 4875, 7406 – 4637). The given numbers do not suggest any obvious *ad hoc* or mental strategy (as would be present for example in a case such as16,999 + 3,501 or 7300 – 6301, for example). i) Grade 4 expectations in CCSSM are limited to whole numbers less than or equal to 1,000,000; for purposes of assessment, both of the given numbers should be limited to 4 digits.	MP.1	
	1/2	1	4.Int.2	Solve one-step word problems involving multiplying two two-digit numbers.	i) The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 63 x 44).	MP.1, MP.7	
1	1/2	1	4.Int.3	Solve one-step word problems involving multiplying a four-digit number by a one-digit number.	i) The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 2392 x 8).	MP.1, MP.7	
	1/2	1	4.Int.4	Solve one-step word problems involving dividing a four-digit number by a one-digit number.	The given numbers are such as to require a general strategy based on place value and the properties of operations (e.g., 2328 ÷ 8). i) Quotients are whole numbers (i.e., there are no remainders).	MP.1, MP.7	
1	-	1	3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	i) Tasks involve interpreting products in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret products in terms of repeated addition, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a total can be expressed as a specified product.	MP.4, MP.2[35].	Represent and solve problems involving multiplication and division.
1	-	1	3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	i) Tasks involve interpreting quotients in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret quotients in terms of repeated subtraction, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a number of objects can be expressed as a specified quotient. iv) 50% of tasks require interpreting quotients as a number of objects in each share. 50% of tasks require interpreting quotients as a number of equal shares.	MP.4 , MP.2.	Represent and solve problems involving multiplication and division.

[35] The account of MP.2 in the ITN is very incomplete. It needs a new domain opened up, namely that which involves the mapping of abstract symbols such as "x" or "3/8" or "-11+8" or "2" onto more-or-less-real quantities such as "the unknown side" (late elementary) or "this much liquid" (elementary) or "net profit" (late middle) or "this many apples" (primary).

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*	Tasks do not have a context. i) All products and related quotients are from the harder three quadrants of the times table (*a* × *b* where *a* > 5 and/or *b* > 5).	-	Represent and solve problems involving multiplication and division.
1	-	3	3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	Tasks do not have a context. i) Tasks require fluent (fast and accurate) finding of products and related quotients. For example, each 1-point task might require four or more computations, two or more multiplication and two or more division.	-	Understand properties of multiplication and the relationship between multiplication and division.
1	-	3	3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	i) Tasks have no context.	-	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	-	1	3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9x80, 5x60) using strategies based on place value and properties of operations.	i) Tasks have no context-	MP.7	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	-	1	3.NF.3d	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. *(See footnote in CCSSM, p. 24)* ii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iii) *The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see grade 3 PBA.(2).*	MP.7 MP.5	Develop understanding of fractions as numbers.
1	-	1	3.MD.7b-1	Relate area to the operations of multiplication and addition. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems.	i) Products are limited to the 10x10 multiplication table.	MP.4.	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

Part 2. Part 2 consists of eight (8) tasks, each worth 1 point (these are tasks of Type I.1[36]). On any given form of the test, the tasks are as specified in Table 4-EOY(2). Each task on Part 2 generates evidence for a single evidence statement in the table. On any given form, each of the evidence statements in Table 4-EOY(2) is equally likely to be assessed subject to the additional constraints below

Table 4-EOY(2) lists evidence statements for Part 1a. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 4-EOY(2). Blueprint for Grade 4 EOY Part 2

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	2/3	5	4.MD.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two- column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	-	MP.5, MP.8	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
	2/3	5	4.MD.2-1	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, in problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	i) Situations involve whole number measurements and require expressing measurements given in a larger unit in terms of a smaller unit. ii) Tasks may present number line diagrams featuring a measurement scale.	MP.4, MP.5	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
	2/3	5	4.MD.2-2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, in problems involving simple fractions or decimals. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	i) Situations involve two measurements given in the same units, one a whole-number measurement and the other a non-whole-number measurement (given as a fraction or a decimal). ii) Tasks may present number line diagrams featuring a measurement scale.	MP.4, MP.5	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
1	1/3	5	4.MD.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	-	MP.2, MP.5	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
	1/3	5	4.MD.4-1	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8).	-	MP.5	Represent and interpret data.
	1/3	5	4.MD.4-2	Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	-	MP.4, MP.5	Represent and interpret data.
1	-	5	4.MD.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. An angle is measured with reference to a circle with its center at the common	-	MP.2[37]	Geometric measurement: understand concepts of angle and measure angles.

[36] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[37] Basic concepts of measurement involve reasoning abstractly and quantitatively.

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.			
1	-	5	4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	-	MP.2, MP.5	Geometric measurement: understand concepts of angle and measure angles.
1	1/2	5	4.G.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	-	MP.5	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
	1/2	5	4.G.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	-	MP.7	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
2	1/3	5	4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	-	-	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
	1/3	5	4.OA.4-1	Find all factor pairs for a whole number in the range 1–100.	-	MP.7	Gain familiarity with factors and multiples.
	1/3	5	4.OA.4-2	Recognize that a whole number is a multiple of each of its factors.		MP.2	Gain familiarity with factors and multiples.
	1/3	5	4.OA.4-3	Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.	-	MP.8	Gain familiarity with factors and multiples.
	1/3	5	4.OA.4-4	Determine whether a given whole number in the range 1–100 is prime or composite.		MP.7, MP.8	Gain familiarity with factors and multiples.
	1/3	5	4.OA.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	Tasks do not require students to determine a rule; the rule is given. i) 75% of patterns should be number patterns.	MP.8	Generate and analyze patterns.

Part 3. Part 3 consists of tasks of one or more of the following types:[38]

- single-prompt tasks worth 2 points (Type I.2),
- two-prompt tasks worth 2 points (Type I.3),

in any combination totaling 16 points in all. There are nine possibilities (shown at right).

Table 4-EOY(3) (see below) lists Evidence Statements for Part 3.

- Each task on Part 3 generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The distribution of tasks across Content Areas is specified by the Form Construction Tables.
- Evidence Statements within a given Content Domain are equally likely to be assessed. All integrative Evidence Statements that cut across two or more Content Domains are equally likely to be assessed.
- When multiple standards are listed within the Content Scope, the contractor must use the first standard and 1 or more of the subsequent standards listed while keeping a balanced pool.

Table 4-EOY(3). Evidence Statements for Grade 4 EOY Part 3

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[39]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	4.OA.3-2	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, in which remainders must be interpreted.	i) Assessing reasonableness of answer is not assessed here. ii) For the aspects of 4.OA.3 described in notes (i) and (ii), see Grade 4 PBA Part 2 iii) Tasks involve interpreting remainders. iv)) See p. 30 of the *Progression* for Operations and Algebraic Thinking.[40]	MP.4, MP.1	Use the four operations with whole numbers to solve problems.
1	4.NF.3d	Understand a fraction a/b with a>1 as a sum of fractions 1/b. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30). ii) Addition and subtraction situations are limited to the dark- or medium-shaded types in Table 2, p. 9 of the *Progression* for Operations and Algebraic Thinking; these situations are sampled equally.[41] iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.1 and MP.4. MP.5	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
1	4.NF.A.Int.1	Apply conceptual understanding of fraction equivalence and ordering to solve simple word problems requiring fraction comparison.	i) Tasks have "thin context." ii) Tasks do not require adding, subtracting, multiplying, or dividing fractions. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy. iv) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.1. MP.4 MP.5	Extend understanding of fraction equivalent and ordering.
1	4.NF.Int.1	Solve one-step word problems requiring integration of knowledge and skills articulated in 4.NF.	i) See ITN Appendix F, section A, "Illustrations of Innovative Task Characteristics," subsection 4, "Integrative tasks with machine scoring of responses entered by computer interface." ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.1, MP.4	-
1	4.NF.Int.2	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10	i) Tasks are one-step addition word problems of one of two kinds: Add To with result unknown, or Put Together with result unknown.	MP.1	Understand decimal notation for fractions, and compare

[38] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[39] See Appendix F (Revised), "Illustrations of Innovative Task Characteristics," particularly section F(A)(2), "Practice-Forward Tasks," and especially Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," particularly section IV, "Operationalizing Assessment of the Mathematical Practices," and section V, "Practice-forward tasks," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf
[40] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[41] While Table 2 in the *Progression* for Operations and Algebraic Thinking is phrased in terms appropriate for whole numbers, changes of phrasing are generally necessary in fraction contexts (e.g., "Mike's recipe has 1/8 cup sugar. Joe's recipe has 5/8 cup sugar. How much more sugar does Joe's recipe have?") The point of referencing Table 2 is to reference the quantitative relationships it describes, not the exact wording of its examples.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[39]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		and 100. *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*	ii) SeeTable 2, p. 9 of the *Progression* for Operations and Algebraic Thinking; these situations are sampled equally.[42]		decimal fractions.
5	4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	-	MP.1, MP.7	Geometric measurement: understand concepts of area and measure angles.
1	4.Int.5	Solve multi-step word problems posed with whole numbers and involving computations best performed by applying conceptual understanding of place value, perhaps involving rounding. See 4.OA.3, 4.NBT	-	MP.1, MP.2, MP.7	4.OA.A, 4.NBT.A
1, 5	4.Int.6	Solve real-world and mathematical problems about perimeter involving grade-level addition and subtraction of fractions, such as finding an unknown side of a polygon. See 4.NF.3, 4.MD.3	i) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSSM footnote, p. 30).	MP.1, MP.2, MP.5	4.NF.B, 4.MD.A

[42] While Table 2 in the *Progression* for Operations and Algebraic Thinking is phrased in terms appropriate for whole numbers, changes of phrasing are generally necessary in fraction contexts (e.g., "Mike's recipe has 1/8 cup sugar. Joe's recipe has 5/8 cup sugar. How much more sugar does Joe's recipe have?") The point of referencing Table 2 is to reference the quantitative relationships it describes, not the exact wording of its examples.

Grade 4 Summary

Number of **Tasks** by Type and Component

Type	PBA.1	PBA.2	PBA.3	EOY	Total	
I.1 Single-prompt tasks worth 1 point	8			38	46	*50% of pts*
tasks worth 2 points	2			8	10	
II / 3 points		2			2	
II / 4 points		2			2	
III / 3 points			2		2	
III / 6 points			1		1	

Mean points per task (MPPT):[43]

Component	Points	Tasks	MPPT
PBA.1a	8	8	1.80
PBA.1b	4	2	2
PBA.2	14	4	3.50
PBA.3	12	3	4.00
EOY.1	30	30	1.00
EOY.2	8	8	1.00
EOY.3	16	8	2.00
Overall	**92**	**63**	**1.46**

Number of points by sub-claim (disjoint categories)

Claim Code	Sub-Claim	Gr. N	Gr. N-1	Total
1	A but not C or E	41	11	52
2	A and C	14		14
3	A and E	2	1	3
4	D	6	6	12
5	B	11		11
	Total	**74**	**18**	**92**

Approximate Points by Grade, Cluster and Domain

Does not include Sub-Claim D Modeling/application, or previous grade. Italicized numbers are the sum of points located to the left and below. Some entries are approximate; roundoff errors may lead to apparent inconsistencies. True total is shown in parentheses.

[43] Mean points per task (MPPT) is tabulated as a rough measure of “surface richness” of the test. Note for comparison that MCAS grade 8 has MPPT = 54/42 = 1.28. A related heuristic is the fraction of total points arising from 1-point tasks (Type I.1). A target for this is 50%-60%, with high school at the higher end of the range.

Grade 4	6		6	67 *(66)*	
4.OA			11		
4.OA.A		10			*10*
4.OA.Ax	10				
4.OA.B		1			1
4.OA.Bx	1				
4.OA.C		0			.0
4.OA.Cx	0				
4.NBT	3		10		
4.NBT.A		2			2
4.NBT.Ax	2				
4.NBT.B		5			5
4.NBT.Bx	5				
4.NF	4		32		
4.NF.A	3	14			14
4.NF.Ax	11				
4.NF.B	1	15			15
4.NF.Bx	14				
4.NF.C	2	4			4
4.NF.Cx	2				
4.MD			7		
4.MD.A		2			2
4.MD.Ax	2				
4.MD.B		1			1
4.MD.Bx	1				
4.MD.C		4			4
4.MD.Cx	4				
4.G			1		
4.G.A		1			1
4.G.Ax	1				

Mathematical Practices

- Coverage constraint: Each MP is represented by at least one practice-forward task:
- Content integration constraint (in each content domain, there is at least one task associated with one or more MPs):
- Practice weight constraint: Percent of points from tasks that are practice-forward or practice-related: ≥ XX%